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Preface

A conference on the Biochemistry of Metal Binding Proteins in Non-Mammalian Species was held at the National Institute of Environmental Health Sciences, September 19–21, 1984, in Research Triangle Park, North Carolina. The purpose of the meeting was to review current knowledge of the comparative biochemistry of metal-binding proteins in nonmammalian species with respect to the evolution of these molecules and their metal-binding sites relative to mammalian metallothionein and to assess the potential role of these proteins in permitting nonmammalian food organisms to act as vectors for human exposure to metals such as cadmium.

The conference, which was attended by nearly 100 scientists from nine countries, was divided into four sessions to provide a current review on metal-binding proteins in microorganisms, plants, molluscs, crustacea, and fish. A poster session was also held to accommodate additional presentations. In addition, there were three workshop sessions with discussion leaders to evaluate (1) techniques and problems in metal-binding protein chemistry, (2) nomenclature and possible evolutionary pathways of metal-binding proteins, and (3) roles of metal-binding proteins in regulating metal toxicity/use of metal-binding proteins as an index of metal exposure for aquatic species.

In my opinion, the conference again demonstrated the great value of the comparative biological approach to biomedical research by illuminating the diversity of these metal-binding proteins in nature and suggesting hitherto unrecognized patterns of evolution for the metallothionein family of proteins. It is to be hoped that future conferences on these proteins will benefit from some of the discussions held at this meeting and that research in this important area will be stimulated by the papers included in this publication.

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